1.How do properties of the Arctic aerosol during April differ from those measured by the
Mixed Phase Arctic Cloud Experiment (M-PACE) during October?
2.To what extent do the different properties of the Arctic aerosol during April produce
differences in the microphysical and macrophysical

energy balance?
3.How well can cloud models and the cloud parameterizations used in climate models
simulate the sensitivity of Arctic clouds and the surface energy budget to the differences in
aerosol between April and October?
4.How well can long-term surface-based measurements at the ACRF Barrow site provide
retrievals of aerosol, cloud, precipitation and radiative heating in the Arctic?